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GEAR PUMP

BACKGROUND AND SUMMARY OF THE INVENTION

[0001] The invention relates to a gear pump which is suitable for delivering highly viscous materials, such as caoutchouc mixtures.

[0002] Gear pumps permit a high output pressure while the stress to the material is low. The gear section is often used in combination with an extruder screw. German Patent document DE 100 49 730 A1 shows such a gear pump, in the case of which the material is supplied to a gear section with a planetary gear train by way of an input screw. The planetary gear train has a ring gear fixed to the casing and has four planet wheels which are rotatably disposed on a planet carrier. The planet carrier, in turn, is rotatably disposed in the ring gear and has four separating walls extending radially from a central basic body to the toothing of the ring gear, which separating walls form an inlet chamber element narrowing in the delivery direction and a pressure chamber element increasing in the delivery direction. Furthermore, in addition to this embodiment with the toothed ring gear and the non-toothed sun wheel with the planet carrier, the reverse arrangement is also mentioned, which requires higher expenditures, is rated to be more complex and has a toothed sun wheel and a ring gear operating as a function part with at least one sealing area, in the case of which the ring gear with the planet carrier can stand still.

[0003] In the case of the gear pump of German Patent document DE 100 49 730 A1, a high pumping capacity and self-cleaning is achieved by means of the